UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NETWORK-1 TECHNOLOGIES, INC.,

Plaintiff,

v.

GOOGLE, INC., and YOUTUBE, LLC,

Defendants.

14 Civ. 2396 (PGG)

NETWORK-1 TECHNOLOGIES, INC.'S REPLY CLAIM CONSTRUCTION BRIEF

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I.   INTRODUCTION

The parties dispute the construction of three terms. Defendants (collectively "Google")
previously insisted on a different construction of the claim terms "neighbor" and "near
neighbor," but now concede the construction of those terms. Google offers no construction of
any of the remaining claim terms. Instead, Google contends that each is indefinite – asking the
Court to grant it summary judgment of invalidity. Because Google cannot meet the high
standard for summary judgment of indefiniteness articulated by statute, by the Supreme Court,
and by the Federal Circuit, Network-1's proposed constructions should be adopted for each term.

Google's indefiniteness arguments fail both legally and factually. Google argues that any
time a term could have more than one possible definition, the claim is indefinite. Under
Google's analysis, any time a defendant manufactures disagreement about the definition of a
term (disagreements present in virtually every litigated patent case), the patent is invalid. The
Supreme Court did not set such a standard in its recent *Nautilus* decision, and the Federal Circuit
rejected such remand in the remand of the *Nautilus* case (which Google fails to even address).

Factually, Google fails to show, under the correct standard, set by the Supreme Court,
that a person of ordinary skill in the art would be unable to understand the scope of the
inventions in the patents-in-suit with reasonable certainty. For each term, Google: 1) fails to
present the required clear and convincing evidence to show indefiniteness; and 2) fails to address
the facts, including Professor Karypis's declaration, which show that the claims are not indefinite
and readily satisfy the Supreme Court's test. In light of its failures, Google's request for a
finding of indefiniteness should be denied, and Network-1's constructions adopted.

II.   LEGAL STANDARDS

Google challenges the validity of the claims of Network-1's asserted patents, arguing that
they are indefinite under 35 U.S.C. § 112. The Supreme Court recently held that a patent is

invalid for indefiniteness only if "its claims, read in light of the specification delineating the

patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the

art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120,

2124 (2014). The Supreme Court recognized that by statute, patents "shall be presumed valid."

Nautilus, supra, at 2130, n.10 (quoting 35 U.S.C. § 282). The Court further recognized that the

party challenging the validity of any patent claim bears the burden of establishing invalidity by

the heightened standard of clear and convincing evidence. *Id.* (citing *Microsoft Corp. v. i4i Ltd.*

Partnership, 131 S. Ct. 2238 (2011)).[1]

After announcing this standard, the Supreme Court remanded *Nautilus* for determination

under the newly-clarified standard. On April 27, before Google filed its Response Brief, the

Federal Circuit issued its decision on remand. *Biosig Instruments, Inc. v. Nautilus, Inc.*, __ F.3d

__ (Fed. Cir. 2015). On remand, Nautilus argued that the claim term "spaced relationship" was

indefinite because "the original intrinsic evidence point[s] in two opposite directions." *Id.* at slip

op. at 8. The Federal Circuit rejected this argument and reversed a summary judgment of

indefiniteness, holding that the claims informed persons skilled in the art of the scope of the

invention with reasonable certainty. *Id.* at slip op. at 14. Thus, the Federal Circuit rejected the

premise that a claim term with more than one possible definition was indefinite.

Google relies heavily on a Central District of California decision that purports to rely on

the Supreme Court's articulation in *Nautilus*. *See Diamond Coating Techs. v. Hyundai Motor*

Am., 2014 WL 5698455 (C. D. Cal. Aug. 25, 2014). This decision, however, misstates the

Supreme Court's test. The Supreme Court held that a patent must inform a person skilled in the

art of the scope of the invention with reasonable certainty. *Nautilus*, *supra*, 134 S. Ct. at 2124.

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[1] Because Google seeks judgment of invalidity, it must also satisfy the burden for summary judgment –
demonstrating that there are no genuine issues of material fact, and that the undisputed facts require judgment in
Google's favor. *See* Fed. R. Civ. P. 56; *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242 (1986).

The *Diamond Coating* court, however, restated that inquiry to ask if a person of skill in the art

"would be reasonably certain of the correct construction of a term." *Diamond Coating Techs.* at

*4. This reframing departed from the Supreme Court's test and incorrectly defined the issue.

The reasoning applied in *Diamond Coating* mirrors that advanced by Nautilus and rejected by

the Federal Circuit on remand – that if a term is susceptible to more than one possible

construction, it must be indefinite. *Biosig Instruments*, *supra*, __ F.3d __ (slip. op. at 8,14)

(despite Nautilus's argument that the claim language was susceptible to conflicting

interpretations, the Federal Circuit found the claim definite under the Supreme Court's test).

Obviously, this Court is not bound by a decision of another District Court, particularly where, as

here, the reasoning in that decision was rejected by a more recent decision of the Federal Circuit.

III.   DISPUTED TERMS

Since Google does not dispute the construction of any claim terms, but rather asserts

invalidity by indefiniteness, Network-1 addresses each of the terms for which Google makes

such a claim in turn below. Since Google concedes the construction offered by Network-1 for

"neighbor" and "near neighbor," Network-1 does not further address those terms, and requests

the Court adopt Network-1's proposed constructions of both terms.

A.   "non-exhaustive search" should be construed as "a search using an algorithm designed to locate a match without requiring the query to be compared to every record in the reference data set being searched until a match is identified"

Google argues that this term renders the claims indefinite, allegedly because there is more

than one possible interpretation of the term. That is the wrong legal standard. As set forth in

Network-1's opening brief, and expert declaration, a person of skill in the art understands this

term and the scope of the claim with the reasonable certainty required by the Supreme Court.

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1.   Google applies the wrong legal test

The test for definiteness asks if the claim language informs a person of skill in the art

with reasonable certainty of the scope of the invention. *Nautilus, supra.* Google applies a

different test, rejected by the Federal Circuit, that would render every claim indefinite where

there is more than one arguable construction of the term. Neither the Supreme Court nor the

Federal Circuit ever accepted such an absurd standard. Indeed, the Supreme Court's *Markman*

decision itself, and subsequent claim construction decisions would have been unnecessary. If a

reasonable dispute about the possible meaning of a claim term necessitated a finding of

indefiniteness, as Google suggests, there would be no reason for a court to ever conduct a claim

construction inquiry as contemplated by the Supreme Court. *See Markman v. Westview*

Instruments, Inc., 517 U.S. 370 (1996) (holding that claim interpretation is a question for the

court); *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015) (delineating under

what circumstances claim construction determinations are entitled to deferential review).

2.   Google focuses on surrogates for the claim language rather than the actual words of the claim

Google obscures the real issues by focusing on terms it contends are synonyms for the

claim terms, then arguing that those terms (like "linear search" or "brute force search") might be

used inconsistently. Google Br. at 8. Google suggests that the patent discusses a type of search

that would be exhaustive and labels that particular search as "linear."[2] *Id.* Google then analyzes

other references by looking at searches characterized as "linear" rather than those characterized

as "exhaustive" or "non-exhaustive." Google focuses on the wrong term. Google does not prove

that "non-exhaustive search" is indefinite. At most, it suggests that the word "linear" might not

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[2] Google seems to argue that the patent claim is indefinite because it uses a word (non-exhaustive) that does not appear in the specification to describe the same concept in the claims. Google cites no precedent that all words in the claim must literally appear in the specfication and, indeed, Federal Circuit precedent holds the opposite. *See Purdue Pharma L.P. v. Faulding, Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000) ("the disclosure as originally filed does not have to provide in haec verba support for the claimed subject matter at issue.").

always be used consistently to describe the type of exhaustive search the patent describes (and contrasts with those used in the invention). This argument distracts from the actual issues.

The term at issue is "non-exhaustive search." It is necessarily defined with reference to an exhaustive search.[3] Google concedes that although not using the precise words of the claim, an exhaustive search concept is discussed in the patent specification, and contrasted with the type of searches that are contemplated for the invention. Google Brief at 8. Google then inexplicably suggests that although Network-1's construction is closely tied to the specification, it somehow cannot be correct. Google cites no authority for this proposition.

Network-1's definition focuses not on labels, but on a description of the search being conducted – "a search using an algorithm designed to locate a match without requiring the query to be compared to every record in the reference data set being searched until a match is identified." In its opening brief, Network-1 pointed to references that used the terms "non-exhaustive" and "exhaustive" consistently with this straightforward definition. Network-1's analysis focuses on the actual description of the searches, not merely labels applied afterwards.

Google focuses on superficial labels. For example, Google argues that the Denny reference suggests indefiniteness of the term "non-exhaustive search." Google Br. at 11. The Denny reference actually suggests that "[e]xhaustive search is a technique for constructing or examining all possible states within a given search space. . . . In contrast, non-exhaustive search strategies, such as the probabilistic algorithms studied in the previous chapter, traverse the search space more or less at random and thus certain states may never be examined." Berger Decl., Ex.

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[3] Google takes issue with the fact that Network-1 defines "non-exhaustive" search with reference to an exhaustive search. This is a necessary characteristic of the term, just as the term "non-human" must be defined with reference to what is human. Google uses the inexplicable example of the words "unicycle" and "mammal" to suggest that although a unicycle is not a mammal, it does not follow that anything other than a unicycle is a mammal. Google's argument fails to recognize that here the term is "non-exhaustive." In the context of Google's inapplicable example, if the term were, "non-human," it would be the case that anything that is not a human is "non-human."

13 at 47. Google argues that the reference calls its "backtracking" system "exhaustive," but that

it fits Network-1's definition of "non-exhaustive" because it uses "pruning." But, the reference

describes an exhaustive search system that compares a query to each record in the reference data

set until a match is found (the opposite of Network-1's definition of non-exhaustive). The

"pruning" relates to the length of time needed for individual comparisons (which the reference

explained could be stopped early when the comparison determined that there was no match), not

the number of comparisons needing to be performed. *Id.* at 48. Google misrepresents the

reference by using labels and abbreviations rather than substantive analysis. Google continues

this wrong analysis by arguing that Denny's "backtracking" algorithm may not be a "brute force"

approach, and therefore is "non-exhaustive." "Brute force" is not the claim term "non-

exhaustive search" is. When Denny uses the claim term (as shown above and in Network-1's

opening papers) its meaning matches Network-1's definition.

Google also offers incorrect arguments about its Zhu patent. Google Br. at 11. Google

argues that a search labeled "linear" was non-exhaustive. Google never addresses whether the

search compared a query to all references in a two-level data set – it did not (comparing the

query to one level of the set and only part of the second level.) Berger Decl., Ex. 15 at Col. 22-

23. Thus, Zhu was not describing an exhaustive search under Network-1's construction.

3. Google fails to explain why Network-1's proposed construction is incorrect

Neither Google, nor its expert, ever actually states that a person of skill in the art would

not find Network-1's definition to be accurate, correct, and the ordinary meaning of the term in

light of the intrinsic evidence. Instead, Google and its expert assert that various extrinsic

references in isolation may have conflicting definitions. As shown above regarding the Denny

reference, Google's arguments are misguided at best, because they ignore the correct question.

As articulated by the Supreme Court and the Federal Circuit in *Nautilus*, a person skilled in the art reviews the patent's intrinsic evidence and, in light of that evidence and the understanding of the art, determines if they can ascertain, with reasonable certainty, the scope of the invention. That person would not look at individual references in isolation, as Google does. Instead, that person would draw upon the breadth of the art and apply that understanding to the intrinsic record of the patent specification and prosecution history to understand the scope of the claim. Google and its expert never attempt to perform this analysis.

Network-1's expert, Professor Karypis, on the other hand, correctly performed this analysis. He was readily able to understand that the patents describe the concept of exhaustive and non-exhaustive searches and the manner in which the two are distinguished. *See* Karypis Decl., ¶¶ 55-74. Google fails to rebut this testimony. At best, Google offers another expert asserting "I disagree." *See Major League Baseball Properties, Inc. v. Salvino, Inc.*, 542 F.3d 290, 311 (2d Cir. 2008) ("An expert's conclusory opinions are similarly inappropriate.").

Google's evidence becomes even more suspect in light of a separate declaration from its expert, Pierre Moulin, submitted to the Patent Office, that offers a contradictory opinion to those Google asserts here. On April 13, 2015, Dr. Moulin submitted a sworn declaration to the US Patent Office (Ledahl Decl., Ex. A) in which he stated, "[b]ecause neighbor searching is computationally intensive for large feature sets, content recognition schemes typically employed search algorithms that increased efficiency by intelligently searching only a subset of potential matches (i.e., 'non-exhaustive' algorithms)." *Id.* at ¶ 18. Contrary to his protestations here, Dr. Moulin understands what a non-exhaustive search is.[4] Google's contradictory evidence falls far short of the high bar of clear and convincing evidence that Google must provide to demonstrate

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[4] This difference in Dr. Moulin's opinion can not be attributed to a different standard of review in a patent office proceeding (cf. Google Br. at 7), since Dr. Moulin makes this statement as a factual definition of the ordinary meaning of the term, and not as the "broadest reasonable interpretation" of that term.

that the claims are invalid for indefiniteness.[5]

B.   "associating"

As with its arguments about "non-exhaustive" search, Google relies on its incorrect legal

standard that if more than one construction might be possible in the abstract, a term is indefinite.

Google fails to apply the correct analysis of a person of skill in the art drawing upon their

knowledge and evaluating the full context of the intrinsic evidence. Instead, Google posits that,

untethered from any context, the term "associating" might have different possible meanings.

Google again argues that rather than looking at the substance of the patent specification,

it must only look for an *in haec verba* recitation of the claim language there. As explained

above, the Federal Circuit holds precisely the opposite. *See Purdue Pharma*, *supra*, 230 F.3d at

1323. Once again, the correct analysis, provided by Professor Karypis, shows that this term is

readily understood by a person of skill in the art. Professor Karypis applies the understanding

such a person brings to the intrinsic evidence and finds a clear understanding of this term in the

context of the claims. *See* Karypis Decl., ¶¶76-81.

Google suggests that the association described is "nonsensical" (Google Br. at 16-18). In

particular, it argues that in an exemplary embodiment described in the patent specification,

Google does not believe it would make sense to associate an action with an identified work in

light of the purpose of that particular embodiment. Google improperly focuses on an exemplary

embodiment rather than the language of the claim itself. The Federal Circuit unambiguously

holds that patent claims are not limited to the exemplary embodiments in the specification. *See,*

e.g., Phillips v. AWH Corp., 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc) ("although the

specification often describes very specific embodiments of the invention, we have repeatedly

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[5] While Google fails to subit facts to support its indefininteness argument, it falls even further from meeting the summary judgment standard of showing that there is no genuine issue of material fact.

warned against confining the claims to those embodiments."). Google assumes (incorrectly) that

the claims are confined to a particular disclosed embodiment and then argues that this

embodiment would be "nonsensical" if the claims meant what they said. This argument is both

incorrect and irrelevant since it does not address any real issue before the Court.

Finally, Google argues that the Court should ignore Google's many uses of the term

"associating" in its patents and patent applications, and its apparent ability to understand that

term in its Inter Parties Review petitions. Google Br. at 18-20. Network-1 demonstrated in its

opening brief that Google's uses of this term confirm that Google understands it. Opening Br. at

24; Berger Decl., Exs. 18-22. Google asks the Court to ignore this material because it is

extrinsic evidence. Google Br. at 19. But, when arguing about "non-exhaustive search," Google

suggested that the Court <u>must</u> consider extrinsic evidence in the definiteness inquiry. Google Br.

at 10. Google cannot have it both ways. Ultimately, none of Google's arguments apply the

correct legal principles and fail to support its positions.

C.   "obtaining"

Google's entire argument relies on the assumption that there must be a "relationship"

between two searches that are recited in dependent claims of the '179 and '441 patents. Google

argues that the claim fails to define the nature of a relationship not required in the claim

language. Google cannot make up requirements just to challenge the statutorily-presumed

validity of Network-1's patent claims. As Google admits, these claims recite performing two

series of operations. In simplified terms, each of these operations performs a search to try to

identify a match of an electronic work to a reference work in a database. The independent claims

from which these claims depend recite performing the first operation and identifying the

electronic work as a match to a reference work. The dependent claims add the requirement that

the same basic process be performed a second time with a second electronic work and yield a

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result that fails to match that work to a reference in the database.

Google poses rhetorical questions about the time relationship between these two operations and suggests that the claim must answer them. Google cites no case imposing such a requirement because none exists. These claims require performing both operations. They do not, and need not, impose additional requirements about how the two operations are performed beyond what is recited in the claim. *See, e.g., Fuji Photo Film Co., Ltd. v. International Trade Comm'n.*, 386 F.3d 1095, 1105-1106 (Fed. Cir. 2004) (where a claim about film processing is silent about the need for a darkroom assembly, method steps in the claim need not necessarily be performed using a darkroom assembly). *Perhaps* if the patent examiner had identified a prior art reference showing the two operations being performed in some particular temporal relationship, the patentee might have added a claim limitation by amendment reciting a different relationship to differentiate such a reference. But all of this is irrelevant and pure hypothetical speculation.

Google's expert admits "I understand the meaning of these individual steps in isolation." Moulin Decl., ¶ 63. This is what the law requires to satisfy the definiteness test. Google and Dr. Moulin attack a straw man by arguing they don't understand the bounds of a limitation that does not exist – the specific time relationship between two claimed steps. The claims contain no specific limitation on that relationship, so it is not uncertain.

Google's argument focuses on elements that are not in the claims rather than the claims as written, and thus fails to demonstrate that the claims are invalid for indefiniteness under any standard, and certainly not under the required clear and convincing standard.

IV. CONCLUSION

Google fails to demonstrate indefiniteness under the correct legal analysis. It also fails to offer any construction of any term at issue. For these reasons, the constructions advocated by Network-1 should be adopted.

Dated: May 11, 2015

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CERTIFICATE OF SERVICE

The undersigned certifies that a true and correct copy of the foregoing document was

filed electronically in compliance with Local Civil Rule 5.2 via the Court's CM/ECF system on

May 11, 2015 and, as such, was served on the counsel of record.

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